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Mobile Technosoma: some phenomenological reflections on itinerant media devices

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Portable media devices and 'wearable' communications technologies are becoming both increasingly ubiquitous and personalised, penetrating and transforming everyday cultural practices and spaces, and further disrupting distinctions between private and public, ready-to-hand and telepresent interaction, actual and virtual environments. Such devices range from the standard mobile phone – which itself is exceeding its role as a communication device – to highly sophisticated multimedia hybrids, personal digital assistants (PDAs), MP3 players, personal media centres and handheld networkable game consoles. This article presents some initial thoughts pre-empting a bigger research project on mobile connectivity and media, and their emergence as portable microworlds or pocket technospaces. The project *en large* aims to investigate the emerging socio-cultural and techno-corporeal effects of mobile interactive media, and how they are changing the ways people interact with both their digital interfaces and each other, altering the shape and meaning of community and spatial location, and our embodied and agentic placement within metropolitan, pedestrian (i.e. literally 'walkable') and urban environments.

Much of the research and analysis in this project will focus on the mobile phone itself and its ostensible mutability into digital video camera, email and web interface, MP3 player, personal organiser, wireless broadband laptop-link, data storage and game device. In her study on mobile phone use in the global context, Sadie Plant observes that the mobile phone is often used as the primary means of Internet access (Plant, 2003).[1] The multi-functionality of the mobile phone, together with high-speed wireless third generation (3G) and Wi-Fi (wireless fidelity) networks, and the adoption of Internet protocol technology, means that both mobile phone carriers and makers of handheld phones are poised to move beyond the voice market and into that of mobile media and data communication (*strategy+business magazine*, May 10, 2004). Moreover, today's advanced handsets 'are disrupting many industries simultaneously, including photography, music and games' (*The Australian*, September 7, 2004).

Yet while the mobile phone is perhaps the most significant technology in the context of this project, and will be the focus of much of this article, it is part of a more general telematic trend towards wearable, handheld and pocket communications and entertainment media. Aside from the multimedia mobile phone, MP3 player and PDA, there exist a number of handheld interactive media devices including Nintendo's GameBoy and DS (dual screen), Sony's PlayStation Portable (PSP), phone-game hybrids such as Nokia's N-Gage QD and Samsung's recent rival (the SCH-V450), and the Digital Multimedia Broadcasting (DMB) handset which can receive TV broadcasts over the cellular network. The PSP, for example, has been launched as an all-in-one multimedia entertainment platform targeted for the adult market, with a USB 2.0 port for further expandability and connectivity to other devices, and the capability for wireless multiplayer interaction, network applications and data transfer. Thus, such handheld games and portable multimedia devices are becoming increasingly sophisticated, and should be examined both in terms of their potential merger with mobile phone functionality, and in their own right as nascent new media forms. Significantly, over the past two decades many of the distinctions between mass media and communications technologies have converged to become – as suggested at a recent symposium – "network media" ('Network Media: Code Culture, Convention' Symposium, University of Western Australia, September 9-11, 2004). As services based upon telecommunications – mobile telephony, the internet, video-on-demand, personal video recorders (PVRs), interactive television (iTV) – become progressively experienced as everyday media content, the environments of information and communication merge. Such a shift means that 'audiences' become 'users' (or agents), effecting changing relationships between individuals and society, private and public domains, temporal and spatial perception, location and presence, embodiment and interface.

The traditional logic underlying media theory considered every media object to be assembled in some kind of media factory (like a Hollywood studio), such that multiple identical copies produced from a master could be distributed to those with access to the medium; broadcasting, film distribution, and print technologies all follow this logic (Manovich, 2001). In a new media environment – via programmable, personalisable, interactive, hybridised, convergent and networkable technologies – rather than media objects being made available to mass audiences, individuals are increasingly micro-targeted: film and TV productions now engender multiple media manifestations (value-added websites, interactive DVDs with extras and games, customised mobile content); every visitor to a website can view their own custom version created on-the-fly from a database; personal digital video recorders enable television consumers to pre-programme their own 'niche-TV'. The mobile

handset and portable console are also devices residing in this nexus between communication and information: one's child can be kept busy during a long drive watching the *Garfield* movie or playing games on Mum's Nokia; video and image content can be captured by the mobile's inbuilt digital camera and transmitted to friends via email, downloaded onto a computer or viewed on a domestic TV set or home theatre.

Clearly the cultural impact of digital telecommunications, 'narrowcast' and network media are impossible to apprehend with models that assume mass audiences and mass distributed messages. Over the past decade, the conceptual development of what has been termed 'new media theory' has sought to effectively grasp this imbrication of media and communications, and the changes wrought by the interactive and manipulable potential of digital technologies (Lunenfeld, 1999; Bolter and Grusin, 2000; Manovich, 2001; Munt, 2001; Wardrip-Fruin and Montfort, 2003; Lister et al, 2003; Everett and Caldwell, 2003; Hansen, 2004). To date key new media texts such as these have not engaged explicitly with the mobile phone, pocket computer or game console as 'new media' with their own specificity. In texts which do include chapters on mobile phone use (Munt, 2001), the mobile is considered primarily as a voice or text transmission device, with no account of its emergence as an interactive digital medium. Yet clearly the current mobile media environment is evolving beyond the basic provision of information and voice/text transmission services. Today's handhelds are becoming increasingly multifunctional sociotechnical devices, portable and interactive technospaces which enfold (and unfold) an assortment of media forms. This transformation requires a critical approach that considers mobile media as more than telecommunications tools, but also as hybrid interfaces within a multi-platform or trans-mediascape, as 'containers' of discrete and connected virtual worlds (Sofia, 2000), as occasional or dedicated consoles of ludic and narrative connectivity, and as emergent nodes of creativity and digital art. Although mobile media forms have not yet undergone sustained analysis in the new media texts mentioned above, it is important that they be considered both as communication tools and *info-mediatic* assemblages within which the technologies and practices of communication, information and media come together.[2] Thus while communication-based analyses of mobile phones and devices will provide a useful context and framework for understanding some of the complex effects, perceptions and patterns-of-use, I aim to approach the mobile phone and portable interface as a new and interactive media form.

Existing research on the mobile phone itself resides mainly in the areas of sociology, cultural studies, communications theory, urban design, social psychology, anthropology and usability (Townsend, 2000; Sussex Technology Group, 2001; Bautsch et al, 2001; Katz and Aakhus, 2002; Mitchell, 2003; Plant, 2003; Lindholm and Keinonen, 2003; Kasesniemi, 2003; Rheingold, 2003; Geser, 2004, Goggin and Newell, 2004; Ling, 2004). Such studies have considered the mobile primarily in its capacity as voice-carrier and text-messager, and (for example) how it has changed the way we work and communicate (Katz and Aakhus), the various mobile-user types with which we identify (Plant), the increased decentralisation and 'nomadic intimacy' of mobile interaction (Geser), public perception and safety issues (Bautsch et al), disability and the digital mobility of text (Goggin and Newell), effects on teenage social behaviour (Kasesniemi), the emergence of 'flashmobs' or 'smartmobs' facilitated by mobile telephony (Rheingold), and its impact on urban society (Townsend, Mitchell, Ling). Not surprisingly, theorists have recently coined the term 'm-communication' to refer to the increasing dispersal of community and person-to-person relations by way of such devices, and the 'culture of interruptions' wrought by mobile telephony (Mitchell, 2003).

While these studies treat the mobile phone largely as a device for interpersonal and business communication, rather than as a medium for screen and sound media content, information or gameplay, there are some notable exceptions. These include Goggin's (2004) discussion of 'the aural irruptions of customised polyphonic ringtones' within contemporary soundscapes, Plant's (2003) various references to mobile-based artwork and the staging of an orchestrated collective ringtone symphony in London, and the trajectory Levinson (2004) traces between the mobile camera and mobile phone.[3] In her paper 'Mobile Art' presented at the Biennale of Electronic Art Perth in Australia (http://beap.org), Lisa Gye (2004) describes the supercession of wireless application protocol (WAP) with I-Mode technology (an always-on wireless internet platform recently launched by DoCoMo in Japan), which enables individual users to participate in a 'distributed aesthetics' by xml-coding their own mobile phone content, rather than simply downloading existing content/services; she reports on the creative media agency *the-phone-book limited* (http://the-phone-book.ltd.uk/) which provides workshops, downloadable freeware/shareware and code generators for mobile phone content. In contributing to these analyses of mobile telephony as both mediatic and communicative, in my own project I aim to elaborate on the corporeal and spatial effects of such mobile media forms.

Contemporary theorists of media and technology are currently grappling with the (non)corporeality and constitution of techno- and telespaces, and the way they are disturbing our commonplace notions of presence and location. In this context, the effects of miniaturised mobility on our experience of existing new and old media raises some interesting questions: How is the network literacy and ecology of the internet 'remediated' by mobile handset microbrowsers? Do our perceptions of media space, cyberspace and 'technospace' become transformed by the physical and vehicular mobility enabled by portable media? How does this portability impact upon the body-technology relation? What is the gender and cultural specificity of mobile media use and perception? How is mobility and networkability transforming our relation to screen and sound media? Does our experience of television and video change once viewed on mini-screens and out of familiar domestic contexts?

When we carry mobile devices not just to maintain perpetual contact, but to watch TV, surf the web, or enter the virtual realtime space of SMS or MMS interactive narrative, what effect does this have on our relation to both the pedestrian and telepresent environment? Although many of these questions can't be answered in the scope of this article, they nevertheless highlight a field of enquiry that is focused on the medium specificity of mobile media and what could be termed their techno-corporeal or *technosomatic* attributes.

Medium Specificity Revisited

My approach is largely phenomenological, and framed within the broad premise that every human-technology relation produces certain kinds of being-in-the-world, and particular ways of knowing and making that world. The location of mobile phones and handheld media within this premise, and in terms of their own determining effects, implicitly realises the much-used media theory concept of medium specificity, and it is worth commenting briefly on the continuing salience of this term. Although some might question whether medium specificity is still a central concept at a time of digital convergence, I would argue that it remains critical to our understanding of contemporary media. At a seminar on interactive TV (iTV), Jane Roscoe and *Fat Cow Motel* developers Tracey Robertson and Nathan Mayfield claimed that media will not converge; rather, they will become increasingly multi-platform, such that each platform delivers appropriate and unique content, and with the mobile phone as an integral component of delivery.[4] This would suggest that medium specificity remains an important and viable conceptual tool, one that can continue to discern between proliferating digital media. Thus, for example, by organising data in particular ways, various interfaces may appear simultaneously or separately within the mobile screen or as audio content, but each mode of engagement (talk, text, email, micro-browsing, gaming, photography, word processing, etc.) will nevertheless still privilege particular corporeal attitudes, social agencies, and modes of (dis)engaging from both telepresent and immediate environments.

The application of medium specificity to new and supposedly convergent mobile media is also sustained by Bolter's and Grusin's (2000) new media concept of remediation, which in some respects is an effective reworking of McLuhan's 'laws of media' (McLuhan, 1964). McLuhan argued that each communication medium works to orchestrate the structure of perception, by preferencing certain sensory ratios over others in medium-specific ways; televisual media, for example, prioritise the visual and aural senses, and at least partially bracket out tactile, motile and olfactory modes of perception. In their collaborative work *Remediation: Understanding New Media* Bolter and Grusin (2000) suggest that this process is complicated by the way that contemporary digital media 'remediate' already mature cultural forms and vice versa, either by appropriating and integrating aspects of older media, or incorporating new media developments. For example, the mobile phone 'remediates' both photography and home video by rendering their transmission between geographically distant places all but immediate. The idea of technological trajectories is also central to remediation, questioning the notion that the latest technologies are 'new' by showing how their technical and cultural trajectories are partially set in place by previous technologies. Thus the telegraph, in severing communication from physical transportation, opened the way for our experience of — and foregrounded our familiarity with — today's more sophisticated telepresencing media. More recently, icon-based navigation on the mobile or PDA screen remediates the user-friendly desktop interface.

Following this trajectory of screen-to-screen remediation between mobile media and other larger screen media for a moment, it would seem that the complexity of the recursive relation between computer or TV screen and mobile screen confounds a number of assumptions made about our embodied and largely non-mobile engagement with televisual media. Manovich, for example, insists that despite numerous innovations in televisual media, the window remains as the archetypal interface:

> Dynamic, real-time, interactive, a screen is still a screen. Interactivity, simulation, and telepresence: as was the case centuries ago, we are still looking at a flat, rectangular surface, existing in the space of our body and acting as a window into another space. We still have not left the era of the screen (Manovich, 2001: 115).

Within this metaphor the eyes alone must remain mobile, to traverse and visually 'handle' the surface space of the screen, while the body is held captive by the eyes' attachment. This front-to-front relationship, it is often argued, is one that we have with screens in general. In most cases the screen is a frame of limited dimensions within our own physical space, while the body's frontal relationship with the apparatus varies between media depending on what Manovich, *pace* Jonathan Crary, calls "viewing regimes" (2001: 96; Crary 1992, 1999). With cinema, for example, the viewer is at the outset fully frontal to the exclusion of all diversions, focusing entirely on the screen. In the optimum situation the boundary or interface between body and cinematic apparatus dissolves, a merger which manifests a change in orientation from being 'in front of' to being 'within,' an effect which is achieved by several factors: the size of the screen, the darkness of the theatre, and surround sound. In the case of television — with perhaps the home theatre an exception — the face-to-face relationship between the body and the set is somewhat more informal and less disciplined; viewers can look away to the familiarity of their domestic surroundings, move about or leave the room, or they can be visually and aurally attentive or inattentive to varying degrees, by muting the sound, zapping through channels, talking on the phone or conversing with co-watchers, and reading or engaging in other activities. This vacillating degree of attention and distraction clearly contravenes the perceived

conventions of eye-body behaviour considered proper to screen-viewing. The 'eyes' of the mobile media device are even further distracted, by the surrounding clamour and moving objects on the street or sidewalk, by the latent lateral but ever-ready possibilities of incoming messages, and by the mobility of one's own body. Laura Singer suggests that screens function as areas of focus only when they are 'surrounded by a zone of inattention' (Singer, 1990: 55). This is almost always not the case with mobile communication; in fact rarely is mobile connectivity a 'dedicated' practice — it is always-already surrounded by other objects and activities within the spatial topography of the built environment. Thus even with this brief example of the mobile phone's particular modes of embodied use, it is apparent that mobile devices demand their own body-technology relations, and thus a medium specific phenomenological approach.

Phenomenology of Mobile Media

The work of Maurice Merleau-Ponty (1962, 1968), Don Ihde (1993), and later feminist accounts of 'intercorporeality' by Gail Weiss (1999) and Moira Gatens (1996) provide effective tools for interpreting the somatic intimacy of wearable and handheld media, their disruption to the spatial boundaries of everyday communicative practices, the communal effects of mobile connectivity, and the collective mobile-user habits of the wider cultural milieu. Through these theorists embodiment is considered to be under continuous modification by artifacts, somewhat reminiscent of Leibniz's monadology: all bodies are in perpetual flux, with 'parts… entering into them and passing out of them continually' (Leibniz, 1698). As Merleau-Ponty (1962) points out, the world is an agentic environment that also changes in common relation to our own flexible corporeality. Ihde's 'postphenomenology' adds to this interpretation by accounting for both the ontic and epistemic inclinations or biases of tools themselves (Ihde, 1993). Finally, in attending to both the equipmental and cultural specificity of our morphology, Weiss and Gatens argue that 'as-bodies' we are embedded within cultural and technical contexts where some kinds of endo- and exosomatic body forms and habits are privileged over others (Weiss, 1999: 66-67; Gatens, 1996). With these insights, and in the context of mobile media, I suggest that both tool and body are covalent participants – and coalesce as various *technosoma* – in the making of meaning and environment. It is our *openness* to the spatially non-coincident flesh of the world — not only bodily flesh but the 'stuff' of our environment — that allows us to incorporate technologies and equipment into our own corporeal organisation. In this understanding, then, the specificity of media forms can be documented and acknowledged as deeply integral to our culturally specific and collectively realised corporeal schemas. The insights of media theory and phenomenology have partly inspired my critical application the term *soma*, which when prefixed by such descriptors as techno, info, tele, endo and exo, among many others, can be used as a way of discerning medium and techno-specific effects on the lived body (Richardson, 2003). Each –*soma* blending can work to describe a *way* of being rather than a *what* of being; any soma is not an entity – as 'the body' might sometimes be understood – but a process/network or ontological schematic. This terminology aims to effectively combine the concepts of intercorporeality and medium specificity, and also to grasp the way in which individual bodies digest the collective embodiments or shared habits of the wider cultural milieu.

Today, our increasing remote interaction with the world — the possibility of extended intervals of telepresence or telematic perception — indicates a need to rearticulate our collective embodiments, our experience and understanding of materiality, corporeality and actuality, and to think through other ontologies, other ways of being-in-the-world, and in a Heideggerian sense, of being-with-equipment. In a number of discussions on new, online and cyberspatial media, it is assumed that such interaction facilitates a mode of disembodiment, such that we can leave the body behind. Against the notion that one can be even intermittently 'without a body' when using the internet, the telephone, or watching TV, telepresent media work on and modify the body, affording an altered sensorial engagement with the world. The specificity of this engagement can also be seen in our use of mobile media forms. The idea that disembodiment is possible relies largely on the supposition that our engagement with screen media requires a stationary body, such that one's awareness of the corporeal recedes. Yet as I have suggested mobile media complicate this relation, and facilitate a physical mobility of the body, whether pedestrian or vehicular, partially returning one's attention to physical location and the navigation within and around material environments.

In what follows I offer some preliminary observations of mobile media *qua* the body-technology relation. Just as we are familiar with the notion that sociocultural specificity is inherent to our embodiments and body-images, technological specificity itself is also — equally and collaboratively — an aspect of embodiment and agency. In other work Carly Harper and I have suggested that the notion of *variable ontology* can describe how being emerges through a network of extended relations between the body-subject and the equipmental environment (Richardson and Harper, 2002; 2003). Don Ihde's inventory of human-technology relations is particularly useful here; the body-technology relation peculiar to mobile phones and devices involves taking the technology *into* one's way of perceiving, 'through the reflexive transformation' of perceptual and body sense (Ihde, 1990: 72). In the case of wearable technologies and their transformative effects upon our sensorium and felt corporeal limits, the body and instrument form a temporary collusive entity — symbolically designated by Ihde as an [I-artifact]<--> world relation— which then apprehends or handles the world in specific ways. Thus, in a general sense the body-telemedia gathering modifies spatial and sensory perception, by changing what is 'proximal', or the relation between 'here' and 'there'. Concepts such as telepresence, non-space, virtuality, and telepistemology (Goldberg, 2000) are all attempts to describe and explain the spatial and ontic effects of such telemedia on our being-in-the-world.

The term telepresence, for example — which refers to the kind of 'distant presence' enabled by telecommunication devices — is a seemingly oxymoronic concept which demands we comprehend alternative modalities of embodiment not necessarily based on our 'normalised' tropes of the physical entity, body, substance or containment. Yet the ability to experience telepresence as part of our mundane and everyday practices is but one instance of our ready incorporation of tools and media into our corporeal schematics, and as extensions of our bodies and our perception. That we can oscillate between, conflate and adapt to ostensibly disparate modes of being and perceiving – i.e. to being simultaneously 'here' and 'there' – is precisely why telepresence and virtual space are ontologically tolerable. That is, the very condition of telepresence – as 'presence at a distance' speaks of our capacity for ontic dispersion beyond the neat physical limits of the body, and our open-ness to the embodied distraction of televisual and telephonic spaces. Thus although on one level it might be said that telepresence is troubling to our common experience of spatial perception and corporeality, we might wonder at how rapidly our reaction to radio, telephony, TV, online and mobile technologies becomes rather ho-hum and habitual. Telemedia may elicit an ambiguous nonspace, but we clearly integrate this ontological blurring quite unproblematically into our adaptive technosomas.

Nevertheless, from a phenomenological perspective it is intriguing to examine the characteristics of telepresence more closely, and the way in which a sense of presence can be felt beyond the location of the physical body. Both telephonic and televisual technologies have problematised the viability of distinctions between interiority and exteriority; in tactile face-to-face contact, or mechanised travel, distance is felt, timely, knowable, but in our use of televisual and telephonic technologies the distance traversed is simultaneously both so far and so close (phone to ear, remote in hand), that the space has been described as virtual – or in Heidegger's sense, part of the 'as if' structure of our awareness. The term *distraction* – originating from *distrahere*, or to pull in different directions – aptly describes how our attention becomes divided when we speak or text on the phone. It suggests that the locus of our perception is divided between the 'here' and 'there,' such that we can *know* different times and spaces simultaneously, an effect which shifts the boundaries of what 'immediacy' is, and how it is defined and experienced.

As Sadie Plant suggests, in mobile phone use this often results in a sense of incompatibility or inappropriateness between the conversation-context and the very public spaces (buses, trains, sidewalks, etc.) wherein we frequently find ourselves answering the mobile:

> Certain conversations can induce emotional and bodily responses which may be quite incompatible with [mobile users'] perceptions of their physical location. Their participants often look as though they don't quite know what to do with themselves, how to reconfigure the tones of voice and postures which would normally accompany such conversations. The mobile requires its users to manage the intersection of the real present and the conversational present in a manner that is mindful of both (Plant, 2004: 50).

This interpretation of distraction, to describe a fragmenting or pulling apart of one's attention and spatial focus, also resonates with Sam Weber's (1996) insightful critique of Benjamin's and Heidegger's use of the comparable German terminology *Zerstreuung* or *Zerstreutheit*. *Zerstreuung* literally translates as 'distraction' but 'the root of the German words — the verb *streuen* — is cognate to the English “strew, strewn” and carries with it a strong spatial overtone' (Weber, 1996: 92). Benjamin employs *Zerstreuung* to refer to medium-specific features of mobile camera production and reception which involve the physical cutting and editing of film and the apprehension of these reconstituted fragments by the viewing public. Weber notes that the term *Zerstreuung* in Heidegger's usage describes the way *Dasein* constitutes itself by/as being scattered, establishing 'a link between *Dasein*'s physicality — or more exactly, its 'fleshiness', its *Leiblichkeit* — and its fragmented, dispersed ways of being' (Weber, 1996: 92). In the experience of mobile connectivity, when this dispersion involves pedestrian, commuting, cycling or 'public' modes of embodiment – that is, of bodies-in-motion – the link between one's physical and distracted being becomes quite explicitly an issue for the caller. Thus when 'on the mobile', we have both the easy capacity for ontic dispersion beyond the physical limits of the body that enables telephonic and televisual interactivity on-the-move, yet also the penchant to locate ourselves and each other both temporally and spatially – by identifying our physical situation ('I'm on the bus') and our temporal context (I'll be there in 5 minutes').

Any discussion of pedestrian embodiment and mobile media use cannot go without at least a brief reference to de Certeau's (1984) interpretation of the way in which a pedestrian *makes possible* the space of the city in collusion with the built environment. The steps one takes – the act of walking through the city – is surely altered by mobile phones and other portable devices. De Certeau argues that 'a spatial order organizes an ensemble of possibilities', places where one can go and objects blocking or redirecting one's path; at the same time the pedestrian trajectory actualises and creates some of these possibilities simply through the 'improvisation of walking' (1984: 98). Yet potentially, this trajectory can be quite radically revised and re-possibilised by the interruption of a mobile phone call or text message, by listening to and downloading music, by the beep of one's PDA warning of an impending meeting or deadline, by changes in the immediate soundscape, or by those telepresent on the other end of the phone becoming 'virtually' integrated into one's route. Moreover, mobile media elicit variable levels attention and inattention that shift between actual and telepresent space, partially depending on the demands of the immediate environment and the extent to which the interface becomes ready-to-

hand in a Heideggerian sense (i.e. its function and usability recede from explicit awareness). Thus one's own technosoma may 'behave' in ways that accord with (or deviate from) consensual and recognised modes of being-on-the-phone, such as stopping, bowing the head, shielding one's mouth or face with the hand to define a provisional private space, or deliberately not altering one's trajectory or visual orientation, as is the case with the more blatant Bluetooth® pedestrian. In such responses the various postures and embodied actions, and the dynamics of attention-inattention, are quite specific to the body-mobile relation which has emerged throughout the last decade. The body becomes quite literally a mobile-specific *mediatrope* – inclined metaphorically, corporeally, communicatively and gesturally towards the mobile media device.

Indeed, the notion of a relational and variable ontology understands the body – *pace* Haraway (1991) – as a material-semiotic assemblage with mediatropic tendencies, disposed both figuratively and materially towards media. As theorists such as Henri Lefebvre (1974) and Norman O. Brown (1966) have argued, tropes and metaphors have an essential role in our understanding and experience of both the world and our own bodies/selves. Telemedia offer a range of corporealist tropes, such as the synechdochal 'all-hands-and-eyes' experience of interactive screens and games, or the way in which the mobile phone-body becomes — metonymically — a pedestrian or vehicular node of networked communication (Martin, 2002). If we remember that the combining form *–trope* indicates an affinitive turn towards something, then telemedia have had significant tropological effects on our corporeal schematics; our modes of embodiment 'turn towards' specific technologies and media interfaces. For example, as is most often the case with our use of contemporary media, the hand-eye-screen interface or the hand-eye-remote control arrangement works as the preferred default, and various body-postures and communicative attitudes become prioritised. Thus, we perceptually 'attend' to the world in ways that are 'allowed' by the medium's inclination or trajectory in Ihde's sense, a phenomenological understanding of technosoma that is also consonant with the concept of medium specificity.

As I have suggested, the phenomenological approach offers a way to begin a theorisation of telesomatic involvements by apprehending mobile device usage as quite literally a mode of embodiment, a way of 'having a body'. Such a perspective considers mobile media as aspects of the body-subject's corporeal schema, both transforming and transformative: specific media are conducive to specific body-media comportments. As Drew Leder comments:

> [I]ncorporation is the result of a rich dialectic wherein the world transforms my body, even as my body transforms its world… The demands and solicitations of the world gradually lead me to reshape the ability structure of my body… [The] dialectical body-world relation is concretized even in the simplest of instruments. Ordinarily, any tool will have one end specifically adapted to our human anatomy; the handle of the saw is designed to fit the hand. However, the other end is adapted to the world upon which we act… To incorporate a tool is to redesign one's extended body until its extremities expressly mesh with the world (Leder, 1990: 34).

Phenomenologically, the handset or portable console becomes an incorporative aspect of the hand, a body-part in itself of some consequence as a mutable and world-shaping device. The techno-corporeality of handset use is of particular interest in the relational ontology of mobile media and body, as the relationship between corporeal schematics and networkable devices quite literally embodies telepresence. In this context the technical and ergonomic configuration of the mobile media device is significant. Handsets and portable game consoles are designed with the specificities of particular interfaces, hybrid devices, and user-bodies in mind. In the optimal embodiment relation, the device should become transparent; the 'best' usability is one which recedes from the user's awareness, such that the liminal gap between hand and instrument goes all but unnoticed. An almost universal experience of handset use is of the numbered buttons arranged in a pattern familiar to many other devices (e.g. calculators and automatic teller machines), that is, the 1 to 9 matrix. We use both our sense of touch and, at least initially, visual recognition to coordinate the position of the numbers in relation to each other, and since human hands are in general anatomically similar, we might expect a common technosomatic relation between hand and mobile phone device. Yet even a preliminary investigation of the phenomenology of mobile phone use suggests that a diversity of problematics and relations have surfaced according to the specificities of culture and sociotechnical context (Richardson, 2005; Plant, 2003). For example, SMS use is widespread only in some (sub)cultures and age groups in Australia, South-East Asia and Japan, and has been deemed particularly vital to networking groups that depend on near-instant distributed information such as smart mobs (Rheingold, 2003). Such emergent habits and practices indicate the need for a detailed phenomenological study into the peculiarities of text messaging.

Our corporeal intimacy with the handset or portable console renders it an object of tactile and kinaesthetic familiarity, although it is salient to mention here that the growing complexity of mobile devices can also bewilder the non-expert user. In such cases there is a conflicting 'disincorporation' between the device and the hand-body. While a reciprocity between tool and body drives the technical specifications and ergonomic development of every apparatus, there is often resistance, in the interstices of our many technosomatic assemblages. The materialities of human bodies and nonhuman bodies are often in ontic conflict, and ensuing material-semiotic compromises are deeply embedded in the trajectories of body-tool relations. Keyboards and keypads must remain of certain proportion in order to fit the somatic specificity of human hands, despite the technology surpassing the need for such bulk. When keypads are repurposed for text messaging, however, the containment of the phonetic alphabet (and punctuation/symbols) to nine buttons renders the interface overly compact and

awkward, which would seem to discourage prolific use. But SMS communication demands less, or differently, than traditional voice conversation – a sensory and somatic commitment that is suitable for some situations (such a public lecture), but not for others (such as driving). It is also flexibly either more immediate or deferred that a letter or email, and it is these enablements that encourage frequent use and thus practised dexterity, and vitiate against mobile-body 'disincorporation' and issues of poor usability. Nevertheless, the teleology of technological design is always towards the reconciliation and eradication of perceptual and ergonomic incompatibilities. The contrivances of the body are quite literally *built into* the blueprints and specifications of any technical device or assemblage (the arrangement of keys, hands-free usability), just as the body is manoeuvred and disciplined by the procedures of the apparatus ('typing' with the thumb, the 'space-making' or 'blue-toothing' on-the-mobile pedestrian). Of medium specific and phenomenological interest here is the extent to which ergonomic and stylistic differences in the design of handsets and mobile devices – the material 'contours' of the mobile medium itself – impact upon the body-tool relation, and thus upon our apprehension and experience of (tele)presence, (techno)space, intercorporeality and sociotechnical agency.

There seems little doubt that the mobile device's delivery of peripatetic yet present-at-hand communication and interactive media content has evoked a number of altered medium-specific ways of being-in-the-world. The dual consequences of ubiquitous wireless connectivity and media rendered miniaturised and portable impacts directly on our experience of the everyday, and transforms urban and city environments *as* media- or technospaces, reworking our agency, (inter)activity and bodily movement within and through them. The 'sensing' of mobile communication and interactive media elicits an intimately audio, visual, sometimes haptic, 'handy' and visceral awareness, a mode of embodiment which demands the ontological coincidence of distance and closeness, presence and telepresence, actual and virtual. In this article I have offered some initial ideas prefiguring a more complex somatics of mobile media, primarily in the context of the mobile phone, but there is much more to be done in the larger project on the techno-corporeal effects of various pocket media and portable devices in their specificity. In addition to mobile phones, this research will conduct an ethno-phenomenology of mobile media use in urban Western Australia, including sophisticated multimedia hybrids, personal digital assistants and entertainment devices, and handheld networkable game consoles. Yet as I have suggested, the emergent agencies and relations will not be considered the remarkable consequences of a brand new merger with high technology *ex nihilo*; rather, they will be interpreted as remediational 'gatherings' amidst numerous other technosoma, and as further instances of our inherently mutable ontologies.

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Notes

[1] Sadie Plant was commissioned by Motorola in 2003 to carry out a study on the global use of mobile phone and the user-habits to emerge from increased mobile phone uptake.

[2] An important area of inquiry which will not be discussed here is the field of game studies, which to date has largely focused on the generation of avatars, the player-character relation, multi-player platforms, narrative content and interactive environments within the virtual microworlds of computer and TV-console games (Aarseth, 2003; Wolf and Perron, 2003). That is, there has been little attention paid to the phenomenology of mobile handheld games, the impact of physical mobility on gaming in offline and online modes, and the particular sense of transmediatic space, place and community that they generate. This is an important area of study given the proliferation of handheld games and hybrid game-phone handsets for the adult market. As such, the larger project aims to critically examine the ludic, embodied and technospatial specificity of portable and handheld game decks which has thus far escaped sustained analysis.

[3] Plant notes that 'artists have explored the creative possibilities of mobile speech. In the UK, Robin Rimbaud, known as Scanner and sometimes referred to as the "telephone terrorist," has produced soundscapes featuring snippets of mobile conversations. In the US, Chicago-based poet William Gillespie has composed poetry based on eavesdropped mobile transmissions, and another artist, Spacewurm, has made music from scanned mobiles and used them as the basis of a book' (Plant, 2003: 48).

[4] 'Producing Interactive TV', Australian Film Television and Radio School Seminar, Sydney, Australia, August 2002. Robertson and Mayfield produced *Fat Cow Motel* as an Australia-based 'multimedium platform space'. Comprised as a whodunit in thirteen half-hour episodes, FCM allowed its viewers or 'players' to interact with the narrative by participating in games and following clues in order to solve a series of mysteries. These clues were distributed through multiple platforms such as interactive TV via Austar, dedicated websites, SMS, voicemail and email, and viewers could follow the narrative either on broadcast TV or online. In the particular context of the mobile phone, viewers could enter coded passwords in order to 'eavesdrop' on the phone conversations of key characters in the series.

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